

## PFP Recovery Update – March 29, 2018

**Updated 1:25 p.m. PST**

**Updates since March 26, 2018 highlighted**

**The next scheduled update is April 2, 2018**

### Summary

The focus at the Plutonium Finishing Plant (PFP) is on the health and safety of the workforce, addressing worker concerns, ensuring the remaining PFP facility debris and rubble piles are stable, and mitigating the potential for any additional spread of contamination.

Since March 26, two high wind events led to the restriction of work inside the PFP work control zone. Radiological surveys following high winds on March 27 and March 28 detected no spread of contamination.

During the week of March 26, waste shipment activities continued and crews completed shipping the last of 18 previously loaded TL-1800 waste containers from the PFP site to the Central Waste Complex for safe and compliant storage. These contain about 24 percent of the remaining material at risk (plutonium-containing material) at the PFP site. Planning continues to support additional future waste shipment activities. Routine surveys and fixative application also continue.

The [DOE Expert Panel](#) is currently reviewing CHPRC's Draft Root Cause Evaluation Report and will provide feedback before the report is finalized in the coming weeks.

### Plant Status

System/Area	Status
PFP Workforce	<ul style="list-style-type: none"><li>No new safety issues.</li></ul>
PRF Area	<ul style="list-style-type: none"><li>The area remains stable with no contamination detected. Routine fixative applications continue.</li></ul>
PFP Property Area	<ul style="list-style-type: none"><li>The area remains stable with no contamination detected. Routine fixative applications continue.</li><li>On March 27, crews detected 1,040 dpm/100cm<sup>2</sup> fixed alpha contamination; 187 dpm/100cm<sup>2</sup> removable contamination in a posted radiological buffer area. Crews discovered the small area of contamination on a concrete pad used to stage demolition equipment and supplies while preparing to apply fixative to the pad.</li><li>On March 28, crews detected 39 dpm/100 cm<sup>2</sup> and 50 dpm/100 cm<sup>2</sup> contamination on the tops of two waste containers. These containers are stored in a posted radiological area and are surveyed prior to shipment. The containers will be decontaminated prior to shipment.</li></ul>

### Radiological Surveys, Sampling and Analysis

- Surface monitoring: metal plates, called "cookie sheets," are placed throughout the work control area, usually near air monitors. The metal plates are checked with detectors, normally twice a day, for contamination. Any contamination detected is expressed in disintegrations per minute, a unit that measures how many radioactive atoms decay in a minute.

- Continuous air monitors (CAMs): stationary monitors are placed in or near the PFP demolition zone and provide real-time information about the level of airborne radioactivity. The monitors are set to alarm, allowing workers to take protective measures if there is an indication of airborne radioactivity. Filters may also be collected from the CAMs for analysis in a laboratory to provide additional information about any airborne radioactivity. Contamination values are expressed as derived air concentrations times hours (DAC-hours).
- Fixed air samplers: stationary monitors are placed around radiological boundaries to provide retrospective, not real-time, data about the presence and type of airborne radioactivity. The monitors are fitted with filters that are routinely collected for further analysis. Contamination values are expressed as derived air concentrations times hours (DAC-hours).

#### On-Site and Environmental:

Cookie Sheets (69 total)		
	March 29 Day Shift	March 28 Swing Shift
Number Surveyed	55	Only 37 of 69 surveyed due to high winds
Number Clean*	55	37
Number Contaminated (Note location and level)	0	0
*Clean = direct contamination < 500 dpm/100cm <sup>2</sup> and removable contamination < 20 dpm/100cm <sup>2</sup> (or < 100 dpm/100cm <sup>2</sup> in a posted CA or HCA)		

- **Continuous air monitor (CAM)** readings (14 total): All reading less than 1 DAC-hr as of 7:00 p.m., March 28.
- **Fixed air samplers** (24 total): Air filters removed and analyzed with no indication of radioactivity as of March 27.

**Bioassays:** On March 22, all bioassays requested as a result of the December 2017 contamination event were complete and the results communicated, with the summary of the results below. Bioassays are used when a person is potentially exposed to contamination to determine whether there has been an intake (e.g., inhalation or ingestion) of radioactive material and results include an estimated dose.

Requested	281
Negative	270
Positive with Verified Dose Assigned	11
Less than 1 mrem: 2	
1-10 mrem: 8	
10-20 mrem: 1	

- Doses are the expected dose over 50 years.
- DOE requirements for protecting individuals from ionizing radiation set an administrative control level, or dose limit, of 100 mrem/year for non-radiological workers and members of the public visiting DOE sites (DOE Order 458.1). The DOE administrative dose limit for radiological workers is 500 mrem/year.

#### External:

- **Department of Health Web Page:** The Washington State Department of Health has set up a [web page](#) with environmental monitoring information about Hanford.
- **Government Vehicle Radiological Surveys:**

- On Feb. 23, crews surveyed two additional government vehicles that were in the vicinity of the PFP in December. No contamination was detected.
- On Feb. 22, follow-up interior surveys of 54 PFP-controlled government vehicles were completed. No contamination was detected.
- On Feb. 1, CHPRC completed requested surveys of four Hanford Fire Department (HFD) government vehicles. No contamination was detected.
- Surveys of PFP-controlled government vehicles were completed Jan. 23. Decontamination and dispositioning of 27 contaminated vehicles is ongoing. Those vehicles remain in a radiologically-controlled area.

	Total
<b>PFP-Controlled government vehicles surveyed</b>	97
Decontaminated and returned to service	2
Contaminated and awaiting disposition (held as radiologically-controlled vehicles or decontaminated)	27
No contamination found and returned to service	68

- **Personal Vehicle Radiological Surveys:**

- Personal vehicle survey summary:
  - Dec. 26: Seven personal vehicles identified as contaminated by close of business Dec. 19 were decontaminated, surveyed and released as of Dec. 26
  - Jan. 26: One of seven original personal vehicles surveyed and released Dec. 26 (and remained on site since that time) was found to be contaminated; vehicle was decontaminated Jan. 28.
  - Jan. 31: One of seven original personal vehicles surveyed and released Dec. 26 (rental car) was resurveyed and found to be free of contamination.
  - Feb. 1: Seven Hanford Fire Department personal vehicles surveyed; no contamination was detected.
  - Feb. 26: One employee's personal vehicle surveyed; no contamination was detected.
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- **Home Surveys:**

- There have been no new requests for home surveys since Feb. 5. Home survey summary:
  - Dec. 20: Seven originally-requested home surveys complete with no contamination found.
  - Feb. 6: Requested survey of PFP employee's home completed with no contamination found.

**Expert Panel:** Members of the PFP Expert Panel continue to meet. The panel consists of federal, officials with expertise in several scientific and technical disciplines who can consult with industry and academic leaders with similar expertise. The panel will evaluate CHPRC's recovery from the contamination event and its proposed technical approach for safely completing demolition of PFP. The panel will provide observations and recommendations to CHPRC. The Expert Panel's charter and biographies of its members are available at [www.Hanford.gov](http://www.Hanford.gov).

**Workforce Management:**

- The workforce remains committed to the current mission of hazard recognition and control despite the challenging situation.

**Communications:**

- On March 27, the Department of Energy's Office of Enterprise Assessment's Office of Enforcement posted [this notice of intent](#) (*Attachment 1*) to conduct an investigation into the recent spread of contamination at the PFP. As part of its oversight function, the Department of Energy's Office of Enterprise Assessments will formally investigate the recent spread of radiological contamination from the demolition of Hanford's Plutonium Finishing Plant (PFP). The current focus at PFP continues to be on the health and safety of the workforce, communications, addressing worker concerns, ensuring the remaining PFP debris is stable, completing the Root Cause Evaluation, and developing corrective actions and lessons learned that will enable the safe completion of the demolition of PFP. Demolition will not resume without the approval of the Department and its regulators.